COLORADO RIVER RECOVERY PROGRAM **Project No.: 129**
FY-2004 PROPOSED SCOPE-OF-WORK for:
Population estimate of humpback chub in Desolation/Gray Canyon, Green River, Utah

Lead Agency: Utah Division of Wildlife Resources
Submitted by: Matthew Andersen, Project Manager for Utah
Co-Principal Investigators: J. Michael Hudson, Julie Jackson

J. Michael Hudson
Utah Division of Wildlife Resources
Moab Field Station
1165 South HWY 191 - Suite 4
Moab, UT 84532
435-259-3781/(fax) 435-259-3785
michaelhudson@utah.gov

Julie Jackson
Utah Division of Wildlife Resources
Moab Field Station
1165 South HWY 191 - Suite 4
Moab, UT 84532
435-259-3782/(fax) 435-259-3785
juliejackson@utah.gov

Matthew Andersen
UDWR-Salt Lake Office
1594 West North Temple
Suite 2110, Box 146301
Salt Lake City, UT 84114-6301
801-538-4756/(fax) 801-538-4745
matthewandersen@utah.gov

Date: May 21, 2003

Category:
X Ongoing project
___ Ongoing-revised project
___ Requested new project
___ Unsolicited proposal

Expected Funding Source:
X Annual funds
___ Capital funds
___ Other (explain)

I. Title of Proposal:

Population estimate of humpback chub in Desolation/Gray Canyon, Green River, Utah.

II. Relationship to RIPRAP:

General Recovery Program Support Action Plan
V. A. 1. Conduct Standardized Monitoring Program

III. Study Background/Rationale and Hypotheses:

The RIP is currently involved in setting recovery goals for the endangered humpback chub. Recovery goals will be based in part on maintaining populations of humpback chub in several locations, among which is the Desolation/Gray canyon population on the Green River. Setting, maintaining, and monitoring a population necessitates obtaining accurate population estimates. Trend monitoring (ISMP) has been conducted annually since 1991. A five year study on humpback chub reproduction and habitat use 1992-1996 was recently completed (Chart and Lentsch, 1999) as part of the Flaming Gorge studies. However, catch rates were variable and recapture rates low, so a good population estimate could not be produced. An estimate using those data was made by Ron Ryel and Rich Valdez (draft recovery goals). However, three years have elapsed since those data were collected, therefore a new estimate is now required according to the RIP monitoring schedule.

A three year population estimate of humpback chub in Westwater Canyon will be completed in FY2000. Similar methods will be used in Desolation Canyon. A population estimate for Cataract Canyon will be conducted in subsequent years. Population estimates for all three populations will be repeated every 5 years, from the initial year of the estimate.

IV. Goals, Objectives, End Product:

Goal: to estimate the population size of humpback chub in Desolation/ Gray Canyon with confidence intervals of less than 20%.

Objectives:

1) to obtain a population estimate of late juvenile/adult humpback chub in Desolation/Gray Canyon

2) to determine if a relationship exists between ISMP catch rates and population size.

V. Study area:

Desolation/Gray Canyons on the Green River, Utah. Specifically, four long term trend sites in Desolation/Gray Canyon (RM 184.4, 174, 160, and 145) will be sampled. Additional sites may be added in later years (previously sampled as wildcard sites [RM 182, 166.5, and 148.8]).

VI. Study Methods/Approach:

Study methods will be similar to those used in the previous population estimate (Chart and Lentsch 1999) and in the Westwater Canyon population estimate (in progress). Before sampling begins, we will discuss and refine the sampling design and population

estimate with biometricians Ron Ryel, (Ryel and Associates) and Ken Burnham (CSU). We feel a more rigorous sampling design than that used in the previous study (Chart and Lentsch 1999) will be required to produce an estimate with confidence levels less than 20%.

Three sampling trips will be made in early July to late August, targeting flows of less than 8000 cfs to maximize catch. Each of the four trend sites will be sampled for one night. Catch rates of chubs are much lower than those seen in Westwater or Blackrocks, so more than one night may be necessary, although additional sampling tends to produce limited catch rate increases. Trammel nets and electrofishing will be used to collect chubs. Each site will be electrofished before nets are set. Six to eight nets will be set in the evening beginning at approximately 1630 hrs and checked every 1.5 to 2 hours to approximately 2230 hrs. Chubs will be held in live cages overnight. Nets will be set again before sunrise and checked through mid-morning. Suitable portions of the river in between sites will also be electrofished. All chubs will be scanned for a pittag, pittagged if needed, measured (mm) and weighed (g-electronic balance), and released.

VII. Task Description and Schedule (FY-2004):

A short annual progress report summarizing these data will be completed before the winter 2004 Colorado River researchers meeting. A final report will be completed in June, 2004.

VIII. FY2004 Work

Deliverables/Due Dates - See above

Budget:

Labor			
	Biologist	26 days/$315d	$ 8,190
	Technician	5 days /$180d	$ 900
	Project Leader	3 days/$405d	$ 1,215
			$10,305
Travel			
	Mileage		$ 500
	Per Diem		$ 500
			$ 1,000
Supplies & Equipment			**$ 500**
Other			**$ 250**
Total -			**$12,055**

IX. Budget Summary

FY-2004 $ 12,055

X. Reviewers

XI. References

Chart, T.E. and L. Lentsch. 1999. Reproduction and recruitment of *Gila* spp. and Colorado pikeminnow (*Ptychocheilus lucius*) in the middle Green River 1992-1996. Report C in Flaming Gorge Studies: Reproduction and Recruitment of *Gila* spp. and Colorado pikeminnow in the middle Green River. Final Report. Recovery Implementation Program Project #39.